Olkaria PPP (BOOT) Geothermal Project

Descriptive Teaser
CONTENTS

1. Overview
2. Project Participants
3. Project Agreements
4. Contractual Flow
5. Project Site
6. Tariff Structure
7. Legal Framework
8. Procurement Process
Opportunity to enter a dynamic and growing energy sector with a greenfield renewable power generation project supported by a proven geothermal resource and a strong project partner and contractual counterparties

- Qualified international bidders will be invited to submit proposals for the opportunity to finance, build, own, operate and transfer (BOOT) a ~140MW geothermal power generation project (the “Project”) under a public private partnership arrangement with the Kenya Electricity Generating Company (“KenGen”).

- Stable revenues to be provided by a 25-year power purchase agreement with Kenya’s distribution utility (Kenya Power), and guaranteed steam from Kenya’s Olkaria geothermal reservoir via a long-term steam sale agreement whereby KenGen shall be obligated to supply the steam necessary to meet the Project’s PPA requirements.

- The Project will benefit from a pre-selected site, interconnection scheme, KenGen equity investment, and long-term steam supply based on pre-drilled wells sufficient to achieve target capacity with a 20% buffer.
Kenya – Country Overview

Credit Rating
B2 (Moody’s). B+ (S&P)

Stable growth over the last 20 years
6% GDP growth expected in 2019 and 2020

Strong economic growth

A Leading economy in East Africa

Ranked 61st on World Bank’s Ease of Doing Business Rankings

The ease of doing business score ranks best regulatory performance observed on several indicators. An economy’s ease of doing business score is reflected on a scale from 0 to 100 for a total of 191 countries.

KenGen is the largest player in the power sector with 70% of generation capacity.

Geothermal accounts for 50% of Kenya’s clean energy investments, $3.4 billion between 2010 and 2018.

Electricity Sector Overview

Generation Capacity ———— 2,712 MW
Peak Demand ———— 1,882 MW
Growth ———— 8% p.a.
Access Rate ———— 75%
Universal Access Target ———— 2022

<table>
<thead>
<tr>
<th>Source</th>
<th>Capacity (MW)</th>
<th>Generation (GWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geothermal</td>
<td>663 – 24.4%</td>
<td>5,033 – 43.8%</td>
</tr>
<tr>
<td>Hydro</td>
<td>826 – 30.5%</td>
<td>3,741 – 32.5%</td>
</tr>
<tr>
<td>Thermal</td>
<td>808 – 29.8%</td>
<td>1,298 – 11.3%</td>
</tr>
<tr>
<td>Wind</td>
<td>336 – 12.4%</td>
<td>1,192 – 10.4%</td>
</tr>
<tr>
<td>Others</td>
<td>79 – 2.9%</td>
<td>60 – 0.5%</td>
</tr>
<tr>
<td>Imports</td>
<td></td>
<td>170 – 1.5%</td>
</tr>
</tbody>
</table>

Population – 51 Million
GDP – US$ 87.9 Billion
MOE (Ministry of Energy). Responsible for creating policies that provide an enabling environment and growth of the power sector.


**Generation**
- 2,370 MW Installed Capacity
- 42 Power Plants
  - **KenGen**
    - 70% of the total generation capacity
    - Majority owned by GOK
  - **GDC** (Geothermal Development Company)
    - Develops geothermal resources through surface exploration and drilling for steam.
    - Owned by the GOK
  - **IPPs** (Independent Power Producers)
    - ~30% of the total capacity

**Transmission**
- **KenGen**
- **IPPs**
- **KETRACO** (Kenya Electricity Transmission Co)
  - Constructs new transmission infrastructure
  - Owned by GoK

**Distribution**
- **Kenya Power**
  - Majority owned by GOK
  - Operator of all existing distribution infrastructure
- **PPAs** (Power Purchase Agreements)
- **Feed-in-tariff / Capacity Charge**

**Consumers**
- 1,802 MW peak demand
- 75% Access
- 10,702 GWh of energy consumed

**Transmission charges**

**Distribution charges**

**Energy Tribunal**
- The Energy Tribunal is an independent legal entity that arbitrates disputes between parties in the sector.

**REREC** (Rural Electrification and Renewable Energy Corporation, formerly REA)
- Implements rural electrification projects and use of renewable energy technologies
- Largest power generation company in Kenya and East Africa
  - 70% owned by the GOK
- Total installed capacity 1,631 MW
  - 69% of total installed capacity in Kenya
    - Geothermal – 534 MW
    - Hydro – 820 MW
    - Thermal – 253.5 MW
    - Wind – 25.5 MW

Revenues (mm KShs)

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
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<tbody>
<tr>
<td>2017</td>
<td>43,432</td>
</tr>
<tr>
<td>2018</td>
<td>45,290</td>
</tr>
</tbody>
</table>

Profit before tax (mm KShs)

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>11,461</td>
</tr>
<tr>
<td>2018</td>
<td>11,747</td>
</tr>
</tbody>
</table>

KenGen

<table>
<thead>
<tr>
<th>Installed Capacity (MW)</th>
<th>Generation Output (GWhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPPs</td>
<td>IPPs</td>
</tr>
<tr>
<td>728 (31%)</td>
<td>2,713 (25%)</td>
</tr>
</tbody>
</table>

Total borrowing: 121,288 mm KShs

Gross debt by funding source

- Government of Kenya (GoK) Guaranteed
- GoK On-lent
- DFIs
- Infrastructure Bond
- Commercial

Funding Currency

- USD: 46%
- EUR: 16%
- JPY: 30%
- KES: 8%

Debt Maturity Profile (KShs mm)

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>8,954</td>
</tr>
<tr>
<td>2019</td>
<td>10,833</td>
</tr>
<tr>
<td>2020</td>
<td>11,797</td>
</tr>
<tr>
<td>2021</td>
<td>10,231</td>
</tr>
<tr>
<td>2022</td>
<td>10,231</td>
</tr>
</tbody>
</table>

Average age of maturity
15.3 years

Average cost of debt
3.10%

Olkaria Project Overview

**Overview**

First PPP project developed by KenGen under the PPP Act 2013

KenGen owns and operates 4 geothermal plants at Olkaria (450 MW)

<table>
<thead>
<tr>
<th>Size</th>
<th>~140 MW</th>
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<tbody>
<tr>
<td>PPP type</td>
<td>Build, Own, Operate, Transfer ( BOOT)</td>
</tr>
<tr>
<td>Ownership</td>
<td>Special Purpose Vehicle (SPV)</td>
</tr>
</tbody>
</table>
| Procurement   | Step 1 ➔ Request for Qualification  
|               | Step 2 ➔ Request for Proposal |
| Offtaker      | Kenya Power |
| PPA duration  | 25 years |
| Steam Supplier| KenGen (25 years) |
| Location      | 120 km northwest of Nairobi |
| COD date      | ~3 years from financial close |

*Recently renamed the Energy and Petroleum Regulatory Authority (EPRA)*
**Contractual Structure and Risk Allocation**

**CONTRACTUAL OBLIGATIONS**
- Contract with SPV
- Contract without SPV
- Approval/permit

**Note: Lenders Direct Agreement included in RFP; not shown in diagram**

- Supply steam to power plant (SPV)
- Operate & maintain SAGS
- Operate & maintain wellheads and access roads in steam field
- Identify, fund, drill, and connect make-up wells as needed
- Supply water to steam field and power plant (process & potable)
- Lease land for power plant, SAGS, & associated facilities from KWS

- Produce capacity and energy per PPA commitment
- Design, finance, and construct power plant, SAGS, and grid interconnection
- Operate and maintain power plant
- Purchase steam, water and sublease land from KenGen
- Operate power plant within emissions limits and environmental, health, and safety laws and regulations in Kenya
- Treat and dispose of wastewater at site in accordance with Kenyan laws & regulations
- Transfer Facility to KenGen at end of PPA and SSA term while meeting or exceeding minimum condition and function
- Responsible for community engagement (with KenGen support)

**Support Letter to cover certain political risks to be set forth in the Project Agreement.**

- Issue Generation License to SPV
- Issue Environmental Permit

* Recently renamed the Energy and Petroleum Regulatory Authority (EPRA)*
Main Project Agreements

**Purchase Agreement (PPA)**
- Parties: Project Company SPV and KPLC
- US$ denominated
- 25 year term
- Fixed and energy charges
- Customary financeable capacity and availability guarantees, and LD provisions

**Project and Steam Supply Agreement (Project Agreement)**
- Parties: Project Company SPV and KenGen
- US$ denominated
- 25 year term
- Firm steam supply obligation with LDs for failure to deliver
- LDs payable to KenGen for deficient plant performance

**Land Sub-Lease Agreement**
- Parties: Project Company SPV and KenGen
- Term to match PPA and SSA

**Shareholders Agreement**
- Parties: KenGen and the awarded bidder (“SHA”)

**Lenders Direct Agreement**
- Parties: SPV, KenGen, Kenya Power, and the authorized agent for the Project lenders (the “Direct Agreement”)
Olkaria Geothermal Field

- The Olkaria geothermal field is in Naivasha, approximately 120 km northwest of Nairobi.
- The entire Olkaria volcanic field covers an area of approximately 240 km² and is situated at an elevation ranging between 1,900 and 2,200 masl.
- The project wells have been pre-drilled to support target plant capacity plus 20% buffer.
- The site is under long-term lease to KenGen.

Olkaria PPP Project Site

- The Olkaria PPP project area is in the northeastern sector of the Olkaria geothermal field.
- The power plant location is next to the existing Olkaria II power station.
- Grid connection via a ~3.75km line to the Olkaria 1 AU.
- The Project will connect into the Olkaria District 220 kV transmission infrastructure, which is centered on the Suswa switching station located approximately 30 km to the south of the Project site.
<table>
<thead>
<tr>
<th>Procurement Process Stage</th>
<th>Estimated Date</th>
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<tbody>
<tr>
<td>RFQ Announcement</td>
<td>November 2019</td>
</tr>
<tr>
<td>RFQ Issuance</td>
<td>November 2019</td>
</tr>
<tr>
<td>RFQ Submission Deadline</td>
<td>December 2019</td>
</tr>
<tr>
<td>Qualified Bidder Announcement</td>
<td>January 2019</td>
</tr>
<tr>
<td>RFP Issuance</td>
<td>February 2019</td>
</tr>
<tr>
<td>Pre-Bid Conference</td>
<td>March 2020</td>
</tr>
<tr>
<td>RFP Proposal Deadline</td>
<td>June 2020</td>
</tr>
<tr>
<td>Selection of Preferred Bidder</td>
<td>August 2020</td>
</tr>
<tr>
<td>Finalization of Project Agreements</td>
<td>November 2020</td>
</tr>
</tbody>
</table>
Key Project Participants

**KenGen**

KenGen will develop all steam production and reinjection wells, civil works, and associated steam field infrastructure (excluding the SAGS) to supply steam to the SPV under the SSA. Furthermore, KenGen will be responsible for the operation, maintenance, and management of the steam supply system up to the Delivery Point (at the outlet of the SAGS and inlet to the power plant). KenGen will also manage the procurement of the Project and will assume ownership and operations of the power plant at the end of the PPA term.

**Special-Purpose Vehicle (SPV)**

The Ministry of Energy and Petroleum has issued a geothermal resource license to KenGen for the development and utilization of underground resources in the Olkaria geothermal concession area. Furthermore, the MEP’s Principal Secretary will support project decisions through its board representation at KenGen and KPLC. Lastly, the MEP will issue approval for the PPP Process under the PPP Act through its representation on the proposal evaluation team and the cabinet approval of the project. The SPV will finance and construct the power plant, interconnection, and SAGS. The SPV will operate the power plant and sell electricity to KPLC under a PPA.

**Kenya Power**

Kenya Power and Lighting Company (KPLC) will purchase electricity from the SPV under a PPA, paying both energy charges for net output and capacity charges for the power plant’s contracted capacity.

**National Environmental Management Authority (NEMA)**

NEMA will issue an environmental license to the SPV which will allow the SPV to construct and operate the power plant and associated facilities at the Project site. In addition, NEMA will review environmental compliance audits to enforce the Project’s compliance with the environmental license.
This RFQ has been prepared by KenGen to provide prospective Bidders with general information regarding the Project and to specify the criteria to qualify for participation in a subsequent RFP. This RFQ does not contain, and does not purport to contain, all the information that may be required to submit a bid in relation to the Project. Some of the information contained in this RFQ has been obtained from third parties. KenGen does not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information contained in this RFQ, or subsequently provided to Bidders. This includes without limitation, any technical and financial information, estimates and projections, and any technical and financial information derived therefrom, and nothing contained in this RFQ is, or shall be relied upon, as a promise or representation, whether as to the past or the future. KenGen does not accept any liability for any loss or damage suffered or incurred by any entity or person associated with this procurement process or any of their respective officers, employees, servants, agents, representatives or advisors or any other person howsoever caused (including negligence) arising in connection with or in respect of (i) This RFQ including without limitation any statement, opinion or information contained in it or any error in or omission from this RFQ, or for any lack of accuracy, completeness, currency, reliability of any statement, opinion or information in this RFQ; (ii) The Bidder or any other person placing any reliance on any statement, opinion or information set out in this RFQ, or the accuracy, completeness, currency, reliability of this RFQ.

KenGen may in its sole and absolute discretion, but without being under any obligation to do so, update or supplement this RFQ or correct any inaccuracies that become apparent. KenGen accepts no responsibility to inform the Bidders or any of their representatives of any matter arising or coming to their notice which may affect any matter referred to in this RFQ. Bidders are expected and will be deemed to have examined carefully all of the terms, conditions and specifications of this RFQ. Failure to do so is at the Bidder's risk, and no claim will be considered at any time for reimbursement of any expenses incurred as a result of any misunderstanding on the part of any Bidder with regard to the conditions contained in this RFQ. KenGen will not reimburse any Bidder for any cost or expenses incurred in the preparation or submission of a bid pursuant to this RFQ. KenGen has not authorized any person to make any statements or representations on its behalf which are not expressly contained in or contemplated by this RFQ. Any liability of KenGen to a Bidder or any of its representatives or any other person or entity arising out of this RFQ is, to the maximum extent permitted by law, hereby expressly disclaimed and excluded. KenGen reserves the right to terminate the RFQ, at any time, without prior notice and without liability to compensate or reimburse any person pursuant to such termination or amendment. KenGen reserves the right, without qualification, to reject all RFQ submissions, or to waive any formality or technicality in respect of submissions received. Bidders who submit RFQ submissions do so without recourse against KenGen for any reason whatsoever. No Bidder shall have any claim against KenGen, its officers, employees, servants, agents or Transaction Advisors arising out of any matter relating to the RFQ of any nature whatsoever where such claim is based on any act or omission by KenGen, or any of its officers, employees, servants, agents or Transaction Advisors of any nature whatsoever, under any circumstances whatsoever, or such claim is based on the content of, or any omission from, this document of any nature whatsoever. With its RFQ submission, each Bidder certifies that it understands, accepts and agrees to the disclaimers stated herein. Nothing contained in any other provision of this RFQ, nor any statements made orally or in writing by any person or party, shall have the effect of negating or superseding any of the disclaimers set forth herein.